UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,463	07/22/2003	Mark Pike	14031.1US01	9154

23552 7590 09/10/2007

MERCHANT & GOULD PC
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

EXAMINER	
CROUSE, BRETT ALAN	
ART UNIT	**PAPER NUMBER**
1774	

MAIL DATE	DELIVERY MODE
09/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES DEPARTMENT OF COMMERCE
U.S. Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
10625463	7/22/2003	PIKE, MARK	14031.1US01

MERCHANT & GOULD PC
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

EXAMINER
Brett A.. Crouse

ART UNIT	PAPER
1774	20070831

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner for Patents

Office Action Summary	Application No.	Applicant(s)	
	10/625,463	PIKE, MARK	
	Examiner	Art Unit	
	Brett A. Crouse	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 June 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11,13-33,35-46 and 48-62* is/are pending in the application.

4a) Of the above claim(s) *45,46,48-53 and 60-62* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11, 13-33, 35-44 and 54-59* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This office action is in response to the amendment, filed 13 June 2007, which amends claims 1, 21 and 54. Claims 1-11, 13-33, 35-44 and 54-59 are under consideration.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-11, 13-33, 35-44 and 54-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zegler et al., US 6,228,479 hereinafter known as Zegler as evidenced by Kotlair et al., US 5,626,939, hereinafter known as Kotlair, ("Polypropylene Specifications", http://www.boedeker.com/polyp_p.htm, Boedeker Plastics) hereinafter known as Boedeker, ("Polyamide – Nylon 6 – Material Information", http://www.goodfellow.com/csp/active/STATIC/E/Polyamide_-_Nylon__6.HTML , Goodfellow) hereinafter known as Goodfellow, and ("Nylon 66 Properties", http://www.maropolymeronline.com/Properties/nylon_66_properties.asp, Roger Corneliussen) hereinafter known as Corneliussen.

Zegler teaches:

> Column 3, lines 22-44, teach that a preferred source of material comprises a mixture of thermoplastic materials including aliphatic polyamides, polyolefins such as polypropylene and combinations thereof. The material can be derived from waste polymeric material used in floor coverings. (claims 1, 21, 44, 54 and 59) The amount of aliphatic polyamides present is preferably about 15 to 50 percent. (claims 2, 3, 4, 7, 8, 9, 10, 11, 22, 23, 24, 28, 29, 30, 31, 32, 33, 56, 57 and 58) Exemplary aliphatic polyamides include nylon 6, nylon 6,6 and nylon 6,10.
>
> Column 3, line 45 through column 4, line 15, teach the materials are chopped to about 3/8 of an inch (0.95 centimeters) and sent to an extruder. (claims 1, 43 and 44) The extruder is operated at a temperature selected not to exceed the temperature at which the largest portion of the aliphatic polyamide decomposes. Typically, this is about 215 degrees Celsius. Column 5, lines 1-8 provide the melting points of many of the preferred

materials. It is the examiner's position that the preferred temperature of about 215 degrees Celsius in combination with the melting point of nylon 6 of 216 degrees Celsius and Zegler's desire not to decompose the material results in a material comprising nylon 6 which is softened / partially melted. The melting point of polypropylene of 150 degrees Celsius will result in melting which when extruded at 215 degrees Celsius and solidification upon cooling ultimately results in a fused matrix comprising nylon fibers, which have been partially melted. (claims 1, 21 and 54)

Column 4, lines 24-26, teach that carpet backing can be adhered to a carpet using an adhesive. This is interpreted as teaching that an adhesive, such as a hot melt adhesive, can be present in the source material and thus in the recycled product. (claim 55)

Column 4, line 65 through column 5, line 18, example, teach that waste carpet comprising various materials including nylon and polypropylene was used to form the article. The use of carpet as a fiber source reasonably provides fibers having a diameter encompassing 0.2 mm to 7 cm. (claims 1, 21 and 25)

Zegler does not recite:

a) the modulus, tensile strength or compressive strength of the component materials or resulting composite.

b) the fiber diameter(s) of the component materials.

c) the thickness and width of the resulting composite materials.

d) the composition including at least one dye.

e) the water content of the materials.

f) sources of material other than waste carpet.

It would have been obvious to one of ordinary skill in the art the expect that the flexural modulus, tensile strength, and compressive strength of the resulting composite material would be respectively at least 200,000 and 2500 based on the material properties of the component materials as evidenced by Kotlair (claims 1, 13, 14, 21, 35, 36 and 54) and at least 6500 based on the material properties of the component materials as evidenced by Boedeker and Corneliussen. (claims 15, 16, 37 and 38)

It would have been obvious to one of ordinary skill in the art to achieve the fiber diameters of the instant invention from the material of Zegler. Zegler is directed to the recycling of carpet and the instant invention uses carpet as a material source. Fibers meeting the limitations of the instant invention would be expected to be present in the preferred source material. (claims 1, 5, 21 and 25)

It would have been obvious to one of ordinary skill in the art to select a width of material based on the line and roll width of the processing equipment within the range of the instant invention. Additionally, it would have been within the level of one of ordinary skill in the art to select calendaring conditions such that the resulting thickness would be within the range of thicknesses of the instant invention and suitable for use as a backing material in the article of Zegler. (claims 19, 20, 41 and 42)

It would have been obvious to one of ordinary skill in the art to expect that waste carpet material can contain one or more dyes, as evidenced by Kotlair. (claims 18 and 40)

It would have been obvious to one of ordinary skill in the art to expect that the materials having the properties recited by Corneliussen after conditioning would not gain additional water content due to the water content being in equilibrium. (claims 17 and 39)

It would have been obvious to one of ordinary skill in the art to expect that materials obtained from recycled carpet are indistinguishable from the same materials obtained from other sources. (claims 6, 26 and 27)

Summary listing of evidential references:

Kotlair:

Table 1, typical major components of carpet. Column 10, lines 4-9, additional components such as dyes.

Table 2, column 9, Nylon and polypropylene tensile strength and flexural modulus.

Boedeker – Polypropylene tensile strength, flexural modulus, and compressive strength.

Goodfellow – Nylon 6 tensile strength.

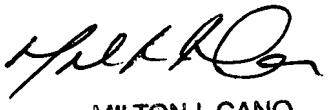
Corneliussen – Nylon 66 tensile strength, flexural strength, and compressive strength. (material conditioned at 50 percent relative humidity)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brett A. Crouse whose telephone number is 571-272-6494. The examiner can normally be reached on Monday - Friday 6:00AM - 2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BAC, 31 August 2007



MILTON I. CANO
SUPERVISORY PATENT EXAMINER